

Remarks

The Office Action of December 31, 2007, argues that Press (US 3,626,365) anticipates the applicant's invention. Below are observations that support the applicant's position that Press does not reproduce environmental road sounds in a controlled manner to make the driver aware of nearby vehicles in his blind spot, and consequently does not anticipate the applicant's invention.

Perhaps the easiest-to-understand of the observations below is the fact that there is no signal connection between the microphones in Press's invention and Press's loudspeaker. As is more fully described below, this means it is physically impossible for Press to reproduce environmental road sounds.

Press doesn't use normal traffic sounds. Press teaches how to present a visual display to a driver to visually show him both the presence and direction of a warning sound. Warning sounds are limited to sirens such as are on emergency vehicles, and horns. These warning sounds are the only sounds to which Press's system is designed to respond, and the only response to these warning sounds is to light segments of a visual display.

Press says, "According to the present invention, the sound receivers or signal receivers 31, 32, and 33 are selective not only with respect to the direction from which the signal comes, but also with respect to the loudness, the duration, and the frequency of the incoming signal. This is important because they should, so far as reasonably possible, be insensitive to normal ambient sound naturally occurring in the vicinity of traffic, but should be able reasonably well to pick up the signals which are likely to be of a warning nature, such as the sound of a motor vehicle horn, or of a siren such as used on emergency vehicles." (column 3 lines 42--51) The normal ambient sound naturally occurring in the vicinity of traffic to which Press makes his system insensitive is exactly the sound that the applicant uses to remind a driver of nearby vehicles.

Press says of the amplifiers and filters, 51, 52, and 53 in figure 3, "Each of these units, 51, 52, and 53 will amplify detected signals in the desired frequency and will filter out signals of other

frequencies, not desired. Since the warning signals which are to be detected are usually in the range of about 1,200 to 8,000 cycles per second, or have strong harmonics in this range, and since much of the extraneous traffic noise normally encountered on streets has a frequency below about 1,200 cycles per second, the units 51, 52, and 53 are constructed to pass and amplify signals in the band from about 1,200 to 8,000 cycles per second and to filter out signals below about 1,200 c.p.s." (column 3, lines 58-68)

Press's microphones and loudspeaker are not connected. The only loudspeaker mentioned in Press is in column 7, lines 8-13, where Press offers that a loudspeaker can be connected to the output of receiver 271. Receiver 271 is shown in figure 10, which is a variation on Press's system that uses a radio transmission from an emergency vehicle as the warning signal. Receiver 271 and its antenna 261 receive the radio transmission warning. Thus the only loudspeaker in Press's patent gives a response to a received radio transmission. The only purpose of Press's loudspeaker is to alert the driver by sound of a silent radio signal warning. The lack of a signal connection between Press's directional microphones and his loudspeaker shows that Press does not reproduce normal traffic sounds for the driver.

Press's loudspeaker produces the equivalent of a telephone ring tone. The paragraph in which Press mentions a loudspeaker is as follows. "In addition to the output of the receiver 271 for illuminating the visual warning signal, the receiver may also have an output converted to audio frequency and fed to a loudspeaker in the vehicle. Thus the driver is doubly alerted, both visually and audibly, to the presence of an emergency vehicle in the vicinity." Receiver 271 receives radio transmissions that are either off or on to indicate the presence of an emergency warning. (column 6, lines 53-72) A telephone receives a signal that is either off or on to indicate a call coming in, and converts it to an audible signal, now called a ring tone. This is what Press does with his single loudspeaker.

Press does not anticipate the applicant's invention. The purpose of the directional microphones in Press is to determine the direction from which a warning signal, such as a siren or horn, originates so that a visual display can indicate both the presence and direction of origin

of a warning siren or horn. Press's directional microphones are not used to reproduce ambient traffic sounds inside the vehicle. This fact is clear because there is no signal connection between Press's microphones and any loudspeaker.

The purpose of the loudspeaker in Press is to audibly alert the driver when an inaudible radio transmission warning signal has been received from an emergency vehicle. The purpose of Press's loudspeaker is not to reproduce normal ambient traffic sounds for the driver. This fact is clear because there is no signal connection between Press's loudspeaker and any microphone.

Press does not lead obviously to the applicant's invention. Press teaches how to present a visual signal indicating the direction of a warning siren or horn to a person who can not hear the warning signal. Nothing in Press suggests a system for presenting routine traffic sounds to a driver to make him aware of his driving environment.

As previously described, one skilled in the art of directional microphones recognizes that the low frequency components of ordinary traffic sounds are not suited to directional discrimination by directional microphones of a size suited for deployment on or in an automobile. For this reason, the use of directional microphones for the applicant's purpose based on prior art is not obvious to someone who understands the limitations of directional microphones.

Also as previously described, the utility of reproducing ordinary traffic sounds inside a vehicle is contrary to the efforts of automobile manufactures to reduce sound levels inside vehicles. For this reason, the utility of the applicant's invention is not obvious in general and in particular there is no reason to transform Press into a system for reproducing traffic sounds inside a vehicle.

Press issued in 1971. The 36 years that have passed without his invention being transformed into the applicant's invention indicates that the applicant's invention does not obviously follow from Press.


Press and Humphries combined do not anticipate the applicant's invention. Concerning the combination of Press and Humphries (US 5,917,920), neither reproduces normal traffic sounds

for a driver for purposes of making the driver aware of nearby vehicles. Neither uses directional microphones for improving the quality of reproduced traffic sounds. Neither suggests in any way that normal traffic sounds have any utility for any purpose. Press teaches a system to indicate visually the presence and location of sirens and horns. Humphries's invention is an intercom for a car to allow people in a car, who want to avoid opening a window or door, to talk to someone outside their car when it is stopped.

Press, Humphries and other cited inventions in combination do not anticipate the applicant's invention. The other cited inventions are Farmer et al (US 5,979,586), Werrbach (US 6,266,423 B1), Terai et al (US 5,377,276), Sindler (US 5,173,881), Kawakami (US 6,407,733), Hosono et al (US 7,062,060 B2), and Marshall (US 2,131,593). None of these patents teach the use of normal traffic sounds for keeping a driver aware of nearby vehicles.

Summary The applicant respectfully asks that claims 1-18 and 20 be allowed in view of the fact that the objections of the Office Action dated December 31, 2007 were based on the belief that Press reproduced normal traffic sounds, which is not what Press does.

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Date: MARCH 28, 2008

Inventor's Signature: 